Exelon Generation®
Oyster Creek Generating Station www.exeloncorp.com
Route 9 South
PO Box 388
Forked River, NJ 08731

RA-14-013 **10 CFR 50.73**

February 12, 2014

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555 - 0001

Oyster Creek Nuclear Generating Station
Renewed Facility Operating License No. DPR-16
NRC Docket No. 50-219

Subject: Licensee Event Report (LER) 2013-004-00, Manual SCRAM due to rise in Reactor Pressure during Turbine Valve Testing

Enclosed is LER 2013-004-00, Manual SCRAM due to rise in Reactor Pressure during Turbine Valve Testing. This event did not affect the health and safety of the public or plant personnel. This event did not result in a safety system functional failure. There are no regulatory commitments made in this LER submittal.

Should you have any questions concerning this letter, please contact Mike McKenna, Regulatory Assurance Manager, at (609) 971-4389.

Respectfully,

Russell R. Peak
Plant Manager
Oyster Creek Nuclear Generating Station

Enclosure: NRC Form 366, LER 2013-004-00

cc: Administrator, NRC Region 1
NRC Senior Resident Inspector - Oyster Creek Nuclear Generating Station
NRC Project Manager - Oyster Creek Nuclear Generating Station

IE22
NRR

NRC FORM 366 (01-2014) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 01/31/2017

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to Infocollects.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE EVENT REPORT (LER)

(See Page 2 for required number of digits/characters for each block)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Oyster Creek, Unit 1	05000219	1 OF 3

4. TITLE

Manual SCRAM due to rise in Reactor Pressure during Turbine Valve Testing

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
12	14	2013	2013	004	00	02	12	2014	N/A	N/A
									FACILITY NAME: N/A	DOCKET NUMBER: N/A

9. OPERATING MODE	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: *(Check all that apply)*			
N	☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(vii)
	☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
	☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
	☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
10. POWER LEVEL	☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☒ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
	☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
95	☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
	☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ OTHER
	☐ 20.2203(a)(2)(vi)	☐ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER *(Include Area Code)*
Michael McKenna, Regulatory Assurance Manager	(609) 971-4389

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
D	TG	XC	G080	Y					

14. SUPPLEMENTAL REPORT EXPECTED	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
☐ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☒ NO		N/A	N/A	N/A

ABSTRACT *(Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)*

On 12/14/13 at approximately 0336 EST, during quarterly turbine valve testing with reactor power at 95% of rated thermal power, the plant experienced reactor pressure control abnormalities. Turbine Control Valves 2 and 3 failed closed due to the Servo Motor Feedback Support Bracket bolts backing out and falling out thereby requiring a scram. Operators initiated a manual reactor scram due to reactor pressure rising to 1042 psig which approached the scram set point.

These conditions were corrected during 1F33. These were determined during complex troubleshooting as the failures that drove the event. The root cause determined that the manufacturer failed to assemble the Control Valve Hydraulic Enclosure per their design.

There were no safety consequences impacting the plant or public safety as a result of this event. All control rods fully inserted and plant response was as expected. This event is being reported pursuant to 10CFR50.73(a)(2)(iv)(A) due to an actuation of the Reactor Protection System (RPS).

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REV NO.	
Oyster Creek, Unit 1	05000219	2013	- 004 -	00	2 OF 3

NARRATIVE

Plant Conditions Prior To Event

Event Date: December 14, 2013 Event Time: 0336 EST
Unit 1 Mode: Power Operation Power Level: 95%

Description of Event

On 12/14/13 at approximately 0336 EST, during quarterly turbine valve testing with reactor power at 95% of rated thermal power, the plant experienced reactor pressure control abnormalities. Turbine Control Valves 2 and 3 failed closed due to the Servo Motor Feedback Support Bracket bolts backing out and falling out thereby requiring a scram. Operators initiated a manual reactor scram due to reactor pressure rising to 1042 psig which approached the scram set point.

Turbine Control Valve (TCV) 2 and 3 Servo Motor feedback lever brackets became loose and then detached from their supports. Also identified was that a vertical connection to transmit the required Turbine Bypass Valve (TBV) relay position from the Turbine Front Standard to the Bypass Valve Assembly became detached.

The failure of the TBV control connection was a lack of effective application of vendor maintenance direction. The immediate corrective action was completed as part of 1F33. The TBV clevis and push/pull rod connections were adjusted to meet OEM required minimum thread engagement and the jamb nuts were secured from rotation per OEM vendor recommendation.

Cause of Event

The OEM during manufacture did not follow their assembly drawings and installed inappropriate locking mechanisms (split washers) instead of the assembly drawing required parts (lock plates).

The failure of the TBV control connection was a lack of effective application of vendor maintenance direction. The resulting investigation determined that the primary failures associated with TCV-2/3 inside the Control Valve Hydraulic Enclosure (CVHE) (General Electric Part number 715E847) were due to a lack of the equipment configuration to meet OEM requirements.

The root cause determined that the manufacturer failed to assemble the Control Valve Hydraulic Enclosure per there design.

Analysis of Event

This issue resulted in a manual reactor SCRAM with the ensuing 1F33 forced outage. Without operator intervention this issue would have further challenged the equipment, operating margin and regulatory margin by driving an automatic SCRAM on high reactor pressure. This event necessitated a reactor cool down to be performed with the Isolation Condensers instead of the Turbine Bypass Valves due to Bypass Valve unavailability. There were no significant equipment problems noted related to maintaining the reactor in a safe Cold Shutdown Condition.

There were no safety consequences impacting the plant or public safety as a result of this event. All control rods fully inserted and plant response was as expected. This event is being reported pursuant to 10CFR50.73(a)(2)(iv)(A) due to an actuation of the Reactor Protection System (RPS).

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REV NO.	
Oyster Creek, Unit 1	05000219	2013	- 004	- 00	3 OF 3

NARRATIVE

Corrective Actions

The immediate corrective actions were completed as part of 1F33 which were to adjust the TBV clevis and push/pull rod connections to meet OEM required minimum thread engagement and secure the jamb nuts from rotation per OEM vendor recommendation. The corrective action was completed as part of 1F33 to implement OEM vendor design and install lock plate securing mechanisms as per vendor documentation.

The root cause determined that the manufacturer failed to assemble the Control Valve Hydraulic Enclosure per there design. Procedures are being revised to inspect for the correct configuration per the GE assembly drawings to ensure any replaced parts will maintain this configuration. PMs, specifications, and procedures that inspect, adjust, or replace the turbine control linkages are being revised to include minimum thread engagement and appropriate torque methods and values.

Previous Occurrences

There have been no similar Licensee Event Reports associated with this component failure submitted at OCNGS in the last two years.

Component Data

Component	IEEE 805 System ID	IEEE 803A Component
Control Valve Hydraulic Enclosure	TG	XC